



United States
Environmental Protection
Agency
Region 4

The Economics of Recycling in the Southeast Understanding the Whole Picture

You've heard it all before: recycling saves energy, reduces pollution, and preserves natural resources. But have you considered how recyclable materials provide valuable resources for your community's manufacturers and yield significant economic benefits to your state? Sure, recycling is about the environment, but it's also about economic development, creating jobs, and building competitive industries. The opportunities are literally in our hands.

That recycling is beneficial for the environment is probably an uncontested proposition. What is becoming increasingly more obvious is that recycling contributes to the economic health of a state's economy.

-Frank Hefner & Calvin Blackwell

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The Economic Impact of the Recycling Industry in South Carolina**

Community leaders are beginning to see recycling not just as a public works operation, but as a sound investment in a town, a state, and a region. Elected officials and city employees alike now recognize that recycling is:

- **Creating Jobs** - Small investments in recycling collection can produce real benefits for a community in the form of well-paying jobs in the recycling industry, in the vast array of businesses that support the recycling industry, and in the manufacturing facilities that rely on recycling for feedstock.
- **Saving Money** - By diverting recyclable materials from the landfill, immediate economic benefits are produced through reduced disposal fees and the sale of recyclable materials.
- **Retaining Local Employers** - By collecting recyclable commodities, industries that need these materials remain in the region and may even expand their operations.
- **Generating Tax Revenue** - Support of a vibrant recycling industry in the Southeast ensures continued receipt of sizable tax revenues that can be used to further improve communities.
- **Producing Economic Development Opportunities** - Increased collection of materials attracts businesses that are interested in processing or using the materials. Recycling helps U.S. manufacturers compete in a high-pressure global economy.



South Carolina tests the water

In August 2006, the South Carolina Department of Commerce released a report compiled by the College of Charleston's Department of Economics and Finance on the recycling industry's role in South Carolina's economy. The South Carolina Department of Health and Environmental Control's Office of Solid Waste Reduction and Recycling funded this study. The findings are astounding. In 2005, South Carolina's recycling industry:

- Directly and indirectly supported 37,440 jobs resulting in \$1.5 billion in personal income impact.
- Produced \$69 million in state tax revenue.
- Generated a total economic impact of \$6.5 billion.

The report further estimates that if all of the common recyclables available in the municipal solid waste stream were recycled, South Carolina would see an immediate cost savings of as much as \$30 million. In addition, at current growth rates, South Carolina's recycling industry promises a total economic impact of more than \$11 billion by 2010. These are real numbers, and they show the economic power of the simple act of recycling.

The South Carolina study provides a glimpse into the economic impact of recycling. As shown in the breakout boxes throughout this document, many states are finding that recycling is an under-appreciated job engine. In 2001, an unprecedented national study that demonstrated the importance of recycling and reuse to the U.S. economy was commissioned by the U.S. EPA, the National Recycling Coalition, and numerous states across the country. According to the REI study, the U.S. recycling and reuse industry grosses approximately \$236 billion per year and is competitive with other major industries (e.g., the U.S. auto industry) in employment and annual salaries. The study clearly shows that recycling is profitable for local governments and businesses alike.

According to the National Recycling Economic Information (REI) Study commissioned by the EPA, "especially significant is the finding that recycling far outpaces the waste management industry because recycling adds value to materials, contributing to a growing labor force. Recycling also provides a large number of jobs that generally pay above the average national wage."

Recycling jobs stack up against other major industries

The demand for recyclable materials moves beyond the basic reuse of resources. To a community, it can boil down to a central need: jobs. The South Carolina report points out that these jobs pay above the state average. And with an estimated 12 percent growth over the next five years, the number of these good South Carolina jobs is expected to grow.

In terms of employment and wages, the recycling and reuse industry compares very well to industries often targeted for recruitment and support by economic developers. And often times, the needs of the recycling industry are much simpler - specifically, access to materials that are currently disposed. Communities that invest in recycling programs are the best friends that businesses and manufacturers could have.

Recycling spurs downstream job and economic growth

The recycling industry is an elaborate and diverse network of public sector institutions and private companies. Investments in local recycling and processing, as well as policies and programs that encourage recycling and reuse, spur significant downstream investment in recycling manufacturing by the private sector. All of these actions promote economic growth. The REI study indicates that beyond the 1.1 million people directly employed by recycling, there are an additional 1.4 million jobs with a \$52 billion payroll in businesses that support the recycling and reuse industry. That is a total of 2.5 million people whose wages are tied to the recycling industry.

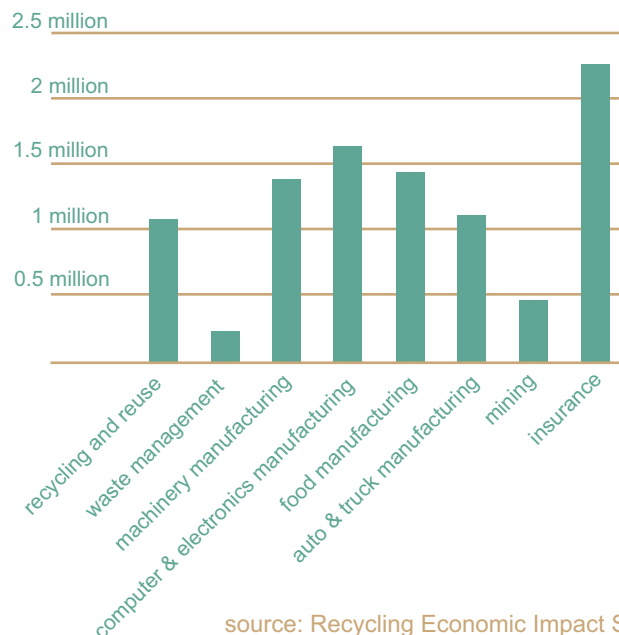
Alabama Hosts Largest High-Density Polyethylene (HDPE) Plastic Recycler in U.S.

With more than 300 direct employees, KW Plastics in Alabama is the largest HDPE plastics recycler in the country. But look beyond the company walls and you'll find a network of trucking company employees that manage the 600 truckloads of material coming into and the 500 truckloads of material going out of the recycling plant every month. Those employees own homes, have families, and go out on Saturday nights. The expenditures and tax revenues from these jobs add up and are an example of the direct and indirect economic effects that just one recycling company can have on a community.

Then consider the impact of those 2.5 million employees when they spend their wages in the economy. Economic modeling cited by the REI study shows that in 2001, employee personal spending supported 1.5 million additional jobs. Those jobs generated a payroll of \$41 billion and produced receipts of \$146 billion. By harnessing the far-reaching economic power of recycling, communities can prosper.

Community leaders can congratulate themselves in recognizing that small investments in the collection of recyclables at the local level can result in well-paid jobs in the recycling industry, in the manufacturing companies that rely on recycling for feedstocks, and in the wide array of organizations that support the recycling industry.

Comparison of Industry Employment



Gauging impact on a national level

It's clear from the REI study that recycling and reuse industries are a significant force in the U.S. economy. The REI numbers show that the United States is home to more than 56,000 recycling and reuse establishments that generate an annual payroll of nearly \$37 billion and gross over \$236 billion in annual receipts. The table below shows the direct impact of recycling and reuse industries on the U.S. economy.

SP Newsprint Company

With recyclable material recovery facilities in six of the eight Region 4 states, SP Newsprint Company is a supporter of recycling and an example of strong manufacturing in the Southeast. Their Web site boasts that each year their manufacturing operations recycle over 1 million tons of old newspapers to produce newsprint used at many of the major newspaper publishers in the United States. Specifically, their paper mill in Dublin, Georgia, consumes more than 750,000 tons of recycled fiber each year in making 100 percent recycled newsprint.

Summary of Estimates of Direct Economic Activity, REI Study Annual Payroll and Estimate Receipts are in \$1,000

data type	industry sector				industry total
	recycling collection	recycling processing	recycling manufacturing	reuse and remanufacturing	
establishments	9,247	12,051	8,047	26,716	56,061
employment	32,010	160,865	759,746	169,183	1,121,804
annual payroll	956,875	3,826,360	29,181,749	2,747,498	36,712,482
estimated receipts	1,974,516	41,753,902	178,390,423	14,182,531	236,301,371

source: Recycling Economic Impact Study, EPA, 2001

Recycling Means Business in North Carolina

In March 2005, the North Carolina Division of Pollution Prevention and Environmental Assistance (DPPEA) released a report titled Recycling Means Business in order to express to elected officials that "North Carolina's recycling economy is one of the fastest growing job engines in the state." The report was quick to gain attention when lawmakers learned that:

- **There are more than 500 recycling businesses in North Carolina employing 14,000 people in the state.**
- **Recycling employs more people than either the bio-tech and agricultural livestock industries in the state.**
- **Fifty-four percent of the recycling businesses surveyed forecast creating more recycling-related positions in the next two years.**

For more information, visit www.p2pays.org

Factoring in the ripple effect

How can states expect this activity to benefit their local economy? As South Carolina's economic report points out, much like tourism or retirement, there is no one economic development category that covers all of the activities that fall under recycling. The report stresses that when communities evaluate the economic impacts of their local recycling programs and the businesses those programs support, they must include the indirect and induced impacts that are produced from recycling's ripple effect. South Carolina was able to document that ripple effect finding that "the total income impact of recycling is estimated to be \$1.5 billion in 2005 which we estimate will generate \$30,604,726 in sales taxes and \$38,674,883 in income taxes."

Potential for easy growth

Heard any good urban legends lately? How about this one: there are no good markets for recyclable materials. The past few years have seen steady, strong market prices for materials and there is no forecast of a crash. In fact, as China continues to import massive quantities of recyclable material from this country, U.S.-based manufacturers are scrambling to ensure that there will be enough supply of recyclable material to meet demand.

Manufacturing companies don't just make products with recycled content solely in an attempt to "green" their image. Recycled materials are established and valuable commodities that provide an economic opportunity for both new and existing markets. For example, the August 2006 edition of Resource Recycling points out that "as the paper industry's most important raw material, collecting and processing recovered paper is becoming a global priority." With the Southeast's strength in pulp and paper products production, this is an important point to note. The American Forest and Paper Association certainly has taken notice. That's why they have set a goal to recover 55 percent of all paper consumed in the United States by 2012. Why the interest? In 2005, 78 percent of the U.S. paper and paperboard mills used some recovered paper and 149 paper mills used only recovered paper.

A wealth of material

Today's strong markets depend upon a steady supply of recyclable materials for feedstock. In the Southeast, the recovery rate of recyclables is less than 25 percent. If communities could reroute more cans, paper, and bottles from the landfill into the recycle bin, the region's economy would benefit directly, producing significant income and growth for businesses that depend on recovered commodities.

Recycling Marketing Cooperative of Tennessee, Inc.

Rural communities often have a more difficult time collecting the volume of recyclables needed for program viability. The Recycling Marketing Cooperative of Tennessee (RMCT) was created to solve this conundrum. RMCT is a statewide recycling cooperative that provides assistance to communities of less than 10,000 people. In addition to providing program development, grant writing, and outreach assistance, RMCT provides full-scale marketing development and facilitates the combination of materials from smaller communities for increased revenue potential. The RMCT has been highly successful in generating revenue and diverting landfill costs and is a prime candidate for replication in other states in the Southeast. In 2005, RMCT partner communities saw economic successes totaling:

- **An average of 600 tons per month of materials diverted from landfills and marketed for recycling**
- **An average of \$42,000 of revenue generated for most participating recycling programs**
- **An average of \$18,000 of landfill tipping fees saved for each participating recycling program.**

For more information, visit www.rmct.org

In 2005, the Georgia Department of Community Affairs released a Georgia Statewide Waste Characterization Study. The study ran from the fall of 2003 through the fall of 2004 and found that approximately 36 percent of municipal solid waste disposed of in Georgia is composed of the most commonly recyclable materials that could have been utilized in manufacturing new products. This includes more than:

- 1.8 million tons of recyclable paper products
- 160,000 tons of recyclable plastic bottles
- 220,000 tons of recyclable glass
- 360,000 tons of recyclable metals

There are enough plastic bottles going into the landfills of the Carolinas to run our plastic recycling plant 24 hours per day, 7 days per week. But due to low recycling rates, we must ship plastic from all over the US including the West Coast, the Upper Midwest, and New England, as well as Canada, Mexico, and Puerto Rico. Although we are located in Southeastern US, less than 50% of our supply comes from this region.

**-Dwight Ensley
President, Ensley Corporation
Reidsville, North Carolina**

The study showed that these valuable materials are going to landfills in Georgia, yet the recycling market infrastructure in Georgia makes it one of the most prominent recycling states in the nation:

- One-third of all the polyethylene terephthalate (PET) plastic, including beverage containers, recovered in North America is used by Georgia's carpet industry.
- Mohawk Industries in Summerville, Georgia is one of the largest end users of PET in the nation.
- Georgia is the second largest pulp and paper producing state in the nation, with 15 paper mills in the state using recycled fiber in their production-nine of them rely completely on recycled content for their operations.
- Atlanta is home to the largest aluminum recycler in the world, Novelis, which recently relocated its North American headquarters to Atlanta. Aluminum cans are processed at their Greensboro, Georgia facility.

Kentucky Landfills Tens of Millions

Using figures from Kentucky's 2003 Statewide Solid Waste Management Report, The Marketplace, 2003, and information from EPA Region 4, Kentucky recently released figures of the potential revenue lost by not recovering the most common recyclables. The estimated total revenue lost in 2003 came to \$54.4 million with the following breakdown:

- **\$17.7 million worth of aluminum cans**
- **\$22.2 million worth of cardboard**
- **\$10.6 million worth of newspaper**
- **\$3.9 million worth of plastic bottles (PET and HDPE)**

For more information, visit www.recycle.ky.gov

During the summer of 2006, The Georgia Recycling Coalition and Department of Community Affairs conducted a study to determine the substantial economic impact of recycling in Georgia. Preliminary findings show that:

- The plastic industry in the Georgia accounts for \$9 billion in annual sales and employs 75,000 Georgians with an annual payroll of almost \$1.8 billion.
- The recycling plastic industry in the state accounts for \$1.5 billion in annual sales and employs 36,000 Georgians with an annual payroll of almost \$875 million.
- The paper industry represents \$10 billion of annual shipments of pulp, paper, and paperboard in Georgia and employs 25,000 Georgians with an annual payroll of more than \$1 billion.

The information obtained from the Waste Characterization Study, combined with the strength of the recycling markets in the state has renewed Georgia's commitment to assist local governments in promoting recycling. In an attempt to increase recycling participation rates, the state has committed to helping community recycling programs convert to single-stream collection operations by funding a series of regional recycling collection hubs and launching a statewide recycling marketing campaign in 2007.

Mississippi also understands that these available recyclables have value. That's why in 2006, the Mississippi Legislature adopted recycling legislation that, among other things, requires that the Mississippi Department of Environmental Quality:

- Give priority to recycling projects in awarding solid waste assistance grants
- Develop a publicly available report on the amount of products in the state that are not recycled, and a report to the Legislature on the status of recycling in the state
- Work with the Mississippi Development Authority to recruit and promote recycling industries in the state, including active promotion of potential markets of recyclable materials
- Reconvene the state's Recycling Task Force to conduct an assessment of the recycling industry and recyclable materials markets in the state.

Florida's Outreach Tools

Florida has long understood that high participation rates are a must for efficient collection programs. That's why the state has invested in and encouraged local governments to use two successful outreach tools: Recycle Guys and Earth 911.

The Recycle Guys is an award-winning outreach campaign developed by South Carolina that has proven very successful at catching the attention of and encouraging action from potential recyclers, especially those of the younger age set.

Earth 911 is a free phone and internet service that citizens can use to find their closest recycling facility. Local governments add their recycling information and Earth 911 does all the advertising from there. Maybe you've seen their logo on phonebooks, at the hardware store, or in your local paper.

It all starts with the community collection program

A greater commitment to increasing recycling totals would translate to a huge economic return at both the community and state level. The Aluminum Association reports that \$1.2 billion worth of aluminum cans went into the landfill last year. At the same time, large aluminum manufacturing plants in the Southeast had difficulty sourcing adequate supplies and incurred higher energy costs to run their operation because they had to turn to using virgin materials.

By collecting more recyclable commodities from homes and businesses, the Southeast can help set the stage for the future expansion of current manufacturing operations. That expansion will result in more jobs, stronger tax revenue, and an overall brighter economic picture for the region. And the best part of it is that the key to this economic success is there for the taking. By rerouting recyclables from the trash can to the recycle bin, we're almost there. It's as easy as that.



For further resources and information on recycling in the Southeast, and recycling outreach ideas including artwork and ads, state contacts, and more, visit EPA Region 4's Web site at: www.epa.gov/region4/recycle



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